

# THE OLD TIMER'S BULLETIN

OFFICIAL JOURNAL, ANTIQUE WIRELESS ASSOCIATION

Published for the Old Time Wireless Operator, Historian and Collector

Vol. 6

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No. 1



## RARE PHOTOGRAPH OF LEE DE FOREST

This photograph was sent to us by Art Stockellburg, W1SS. We are unable to identify the time or location. Any suggestions? All we can recognize are the French tubes perched on top of the receivers and the "Baldie" fones - everything else looks quite foreign.....

YES, WE GOOFED twice in the last OTB. First, the photo on the first page showing meeting of officers was reversed by the printer. To correct - just place everyone on the opposite side. Next - the date for the Spring Business Meeting and Dinner should have been April 25 - not the 18th. A correction was sent to all those most likely to attend.

VLF INFO - interesting information on longwave station at Cutler (NAA) and Jim Creek can be found in Jan. 11 issue of "Electronics". (Tnx - W6GH)

## DE FOREST MUSEUM

Art Trauffer, a native of Council Bluffs, Iowa (Lee de Forest's birthplace) is almost a one man committee establishing memorials to this early pioneer. As a starter, Art was instrumental in having a 13 room elementary school named "Lee de Forest School".

Last year the city opened its first museum - the old General Dodge homestead which was purchased with public donations and then turned over to the city Park Board as a museum. An area

within the building is being set aside as the "de Forest Section". Here Art hopes to setup a display of early de Forest equipment and mementos ..

Mrs. de Forest has promised some of her husband's effects in her will. In the meantime, other contributions are welcomed.

Along this same line, Art with several other de Forest admirers are promoting the "60th Anniversary" of the audion (1906-1966) by wanting the Post Office Department issue a commemorative stamp next year. They would like everyone write the P.O. department urging them to do this - a good idea.....(Arthur Trauffer, 120 Fourth St., Council Bluffs, Iowa)

DE FOREST PAPERS - in the form of a large package was recently received from Gerald Tyne. They consisted of ORIGINAL de Forest business letters, notes, transactions, etc. dated between 1902 and 1906. Many of the letters were faded and crumpled - these were carefully placed between transparent folders.

The de Forest historian will find them invaluable for this is the beginning of a long period of shaky business ventures and patent litigation. One can read dunning letters, bills and correspondence from lawyers mixed with notes from men at his pioneer wireless installations in Key West, Cuba, Great Lakes, etc. All WONDERFUL reading. The material is available to the historian doing research - it will not be loaned out.

REVIEW: "DE FOREST AND THE TRIODE DETECTOR" by Prof. Robert A. Chipman March, 1965, Scientific magazine. (The author is Chairman of the Electrical Engineering Dept., University of Toledo). We find this article one of the best written on the subject in recent years. Dr. Chipman appears to be well informed. He holds no punches as witnessed when he describes de Forest's recollections as being more of a poet than an engineer or scientist ! Although the article may offend many de Forest admirers, we give the author credit for a fresh look on a subject which is usually one sided....

Brilliantly written with exceptional illustrations, it not only covers de Forest's early work but also a general review of other pioneers and their work of the same period. We particularly like the unusual drawings of early detector circuits. This issue of "Scientific American" is a collector's item....a must !

## DE FOREST THREE STAGE AMPLIFIER

"The first neutralized circuit ?"

by Charles Henry

The antique three stage de Forest amplifier pictured in the winter issue of the Bulletin brings to mind the instability in the 3 stage amplifier circuits not equipped for suppression of feed-back.

Did not the U.S. Navy in the 1913-15 era give de Forest a contract for a quantity of 3 stage audio amplifiers ? And not many, if not all, of the Navy and civilian 3 stage amplifiers equipped with capacitive feed-back to prevent 'squealing' ?

Mr. L.C.F. Horle told me in the mid-twenties, when he was Chief Engineer of Federal Telephone & Telegraph Co., that Mr. Logwood, erstwhile with Dr. de Forest, had said that since many of the Navy amplifiers 'squealed' and that when they did so he soldered a piece of insulated magnet wire to the grid connection of the first stage and a similar piece of wire to the grid circuit of the third stage and by twisting the two wires together (insulated) enough inter-circuit capacity was obtained to stop squealing. If this was overdone and the amplifier was not sufficiently lively, the feed-back capacity could be reduced by clipping the ends of the twisted wires thereby reducing capacity whereupon the amplifier became lively but not unstable.

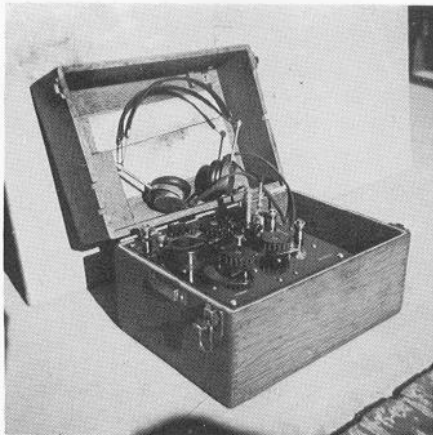
Mr. Horle earnestly desired but never did procure a de Forest three stage amplifier incorporating this neutralizing device. He believed that showing such prior commercial use and sale, the salient claims of the 'neutrodyne' patent would be nullified. There is no record that de Forest attempted to patent Logwood's discovery.

Does anyone own a de Forest three stage amplifier and does it have Logwood's 'anti-squeal' modification ? I would like to hear from our readers on this subject .....

## NEW GEAR AT A.W.A.

Facsimile machine - Mrs. Henry Knutson  
Historical papers - Gerald Tyne  
Early amateur gear - Morgan Rich  
Marconi receiver- Floyd Lyon  
Historical tape - Earle Young  
Early magazines - Peter Rossmann  
Miscellaneous gear - Peter Borsi  
Misc. Material - WLDD, W2DTE, K2PI, W2ZI.

SSB HISTORIANS - don't forget one of the best references is the December, 1956 issue of "Proceedings of the I.R.E."



### U.S. ARMY BC-54 FIELD RECEIVER

In keeping with the theme of this issue, we show a receiver made by the De Forest Radio Tel. & Tel. Co. in 1917 at the Highbridge Plant. Tuning range - 200 - 600 meters. This rare item is part of W2ZI's collection.

**SHIPPING** ? - many of the more experienced collectors have found the best way to send receivers and other large items is via GREYHOUND. Cost is less and better care is taken - and in some incidents - quicker. This is the way Bill Laverty received the high power spark transmitter from California recently.

**WORLD'S OLDEST MANUFACTURER OF RADIO RECEIVERS** - is the way an ad appears on the cover of 'Radio-Craft', February, 1934 issue, for the HOWARD RADIO CO. of South Haven, Michigan. Later, the back cover of 'Radio News', July, 1939, a similar ad appears for the Howard Radio Co. - this time however, they are a little more modest since it reads "AMERICA'S OLDEST MANUFACTURER OF RADIO RECEIVERS"..... anyone have info on the 'oldest' company ? (Tax Geo. Publow)

**HISTORICAL TAPE** - made of Gerald Tyne's tube talk at the National Meet last year turned out perfect. Earle Young, who did the recording, hung a mike around Jerry's neck which resulted in perfect pickup. We've played the tape several times and learn something new each time !

**STRAIGHT LINE GRAPH** - on inflation is exemplified by the rise in cost of the No. 6 Dry Cell. Cost 30 years ago was 25¢ ..... With an increase of approximately 25¢ every 10 years - the cost is now \$1.00 (Bud Fischer)

CHARLES FERNANDEZ - WLDD/TAF, picked up a like new Eico spark coil, four crystals and 26 perfect copies of Wire-less Age !

EARLE YOUNG - is now the proud owner of an original Marconi magnetic detector. W2QY, A.W.A.'s Marconi historian, spent several evenings cleaning it up and checking over the wiring. By using only an antenna and ground without any inductances in the circuit one can pick up a local broadcast station. Earle also picked up several other nice items which we'll mention later.

ED RASER - W2ZI, is always good for some choice items. Ed adds a CRL Paragon tuner with det. and amp., a 1915 Mignon model RLC5 (!), A Navy CN-239, Navy compass rx Type SE-1012, Chambers loose coupler, plus several other nice items and last but not least - a rare Deforest "Responder" used with his "Syntonizer" tuner in 1904/05 (electrolytic detector).....

CURLY ENGLAND - received an IP-501A and a Federal Jr. from XL May as a Xmas present ! Another new item in the England's museum is a Loewe receiver made in Berlin, Germany. It uses a single large "3NT" tube which apparently is a multivalve job since it has 6 connections and a whole mess of elements inside !



### WIRELESS INSTITUTE

The "Wireless Institute" pin shown above was loaned to us by K2DZ to show A.W.A. members. It was proudly worn by a group of dedicated professionals of the society formed in 1909. Later, in 1912, this group together with the "Society of Wireless Telegraph Engineers" formed the Institute of Radio Engineers (I.R.E.). This pin may be the only one left in existence. See the 50th Anniversary of the Proceedings of the I.R.E. for more details. (foto by W2QY)

# REPLICA

made by

W6IS

The above wording engraved on the plate of a vacuum tube is the identifying mark placed on his product by "Ross", W6IS of Bladwin Park, California, who has as his hobby the building of working models of early radio tubes such as the deForest round Audion and the Fleming Valve.

Ross says he took up this hobby several years ago, starting pretty much from scratch. It was a long time before he acquired the necessary skill to turn out a tube that would work properly, and also that considerable equipment had to be accumulated in order to work the glass, and to pump a good vacuum. Most of his equipment is homemade.

Starting out as a ham in 1914 with a Western Electric spark coil and galena detector combination, Ross finally graduated to a 1 K.W. spark set in 1920 when he received the call 6IS.

Back in 1915 very few hams possessed such a thing as an audion. Only well heeled hams could afford one due to the fact Dr. de Forest would not sell one unless the buyer also bought the control panel that went with it. This combination usually cost over \$25.00 which wasn't hay in those days. "Doc" de Forest would not supply a replacement Audion unless you sent in the old one with the order.

Some of the autos back in those days used headlight bulbs about 2 inches in diameter. Here was a glass envelope of the proper size with a filament already installed. All that was needed to make it into an audion was to have a grid and plate inserted and placed close to the filament. This looked like a simple job, but it turned out it wasn't easy. After three or four weeks of intensive effort, all there was to show for it was a lot of cracked and shattered glass and some burned fingers. With no knowledge of how to handle molten glass, the project was abandoned as a complete failure.

About 1960, Ross tried to get hold of an early Audion to put into a small tube collection he was getting together. He found that all of them were in the hands of collectors, and that the going price for even a burned out one was around 50 bucks. Thinking back to 1915 he decided to have another go at building one, but this time under better working conditions.

After learning a little about "glass blowing", he started to get together the materials and equipment. This was a slow process, and a wee bit expensive, but the cost was written off as "hobby expense".

After a lot more busted glass and burned fingers, he was able to turn out these tubes with a fair measure of success. Platinum leads are used in the 'press', as this material was the only thing available at the time the originals were made. Bake-out and exhausting to a good vacuum is done on modern type equipment, which, while it is mostly home brew, works very well.

Marking the plates is done to prevent anyone from confusing these replicas with an original, which happened in one case at least with an early model which was unmarked.

Since building replicas is a hobby with Ross, it is his practice not to sell, preferring to give them to groups who maintain tube collections for display, and where the collection would be incomplete without them.

Ross has received several inquiries from owners of burned out Audions who were interested in having new filaments put in. He has made arrangements with his good friend John Parff, who is a retired glass-blower, to have this work done. Anyone interested is invited to write W6IS for details. The charge for the work is \$20.00 with all work guaranteed.

(Ed. note: This remarkable story was sent to us by Frank Smith, W5VA, a friend of W6IS, both of whom are AWA members. Ross deserves a tremendous amount of credit for his persistence and ingenuity in accomplishing a feat most of us would never even dare to start !)

HISTORICAL DETECTOR - recently added to W2ZI's collection is the Adams-Morgan electrolytic detector once owned by Maj. Armstrong in his boyhood days. It was presented to Ed by George Burghard, W2GEC, Radio Club of America Historian... (now deceased)... To his already famous key collection, W2ZI adds a duel lever cable key made in London about 1865. It was used with a "galvanometer" type receiver.

MC NICOL MANUSCRIPT and book collection mentioned several issues back will not be available to the public again until fall of the 1965. Enlargement of the library at Queen's University, Ontario, has temporarily closed this area.

(Tnx Geo. Publow)



Tom Appleby (3rd from left) as clerk in the J. Elliot Shaw Electrical Store, Philadelphia, in 1900. W3AX assembled his first transmitter and receiver in 1899 (!) which may also make him the oldest living amateur. Using a crude coherer receiver and a Ruhmkorff spark coil for transmitting, he succeeded with the help of a friend in receiving his own signals at a distance of several hundred feet. The original purpose in building the receiver was a failure. He had hoped to pick up the 1899 International Yacht Races between the Shamrock and Columbia at nearby New York as reported by 'wireless telegraph' to the New York Herald. He heard nothing.

#### FIRST LICENSED OPERATOR

We're always hearing about "firsts". The latest to come to our attention was a newspaper clipping from the January 13, Philadelphia "Evening Bulletin" which stated that in 1911, a George Hill Lewis of Cincinnati, was the first ever to receive an amateur license. No exact date or other information was given.

Amateur licenses were not issued in 1911 - instead, the applicant was given an examination and issued a "Certificate of Skill". Two of our members (K2PI and W3QR) questioned the newspaper article and wanted to know just how Tom Appleby, W3AX stood on this matter.

We wrote Tom a letter and asked him when he was licensed. He sent me a Xerox copy of his original license which is now on display at the Smithsonian Institution, Washington, D.C. This original license is date MAY 27, 1911.

It was the first issued at the Philadelphia Navy Yard and to the best of his knowledge was the **FIRST** ever issued in the country ! This, they tell me, even precedes Irving Vermilya claim. Until one can **ACTUALLY** produce a license dated **BEFORE** May 27, 1911, W3AX is the first and oldest licensed operator for our money !

ODD TUBE - that was recently given to the A.R.R.L. Museum is most likely an early G.E. experimental type according to Gerald Tyne. They are a double filament tube with some having the additional filament wire coming out at the collar. It might be interesting to note that there were many experimental tubes made in the late 'teens and early 20's that were never marketed. Their value on the collector's market - - ?

THORN MAYES, W6AX, found an early Marconi Decimeter and finally completed his file of "Everyday Engineering".



# OLD TIME HAM-ADS

**FOR SALE** - Westinghouse RA tuner and DA amplifier (1921). Good condition. Make offer or will swap for tenor banjo mandolin. Must be good. Write W8FX, 27209 W. Six Mile Rd., Detroit, Mich.

**WANTED** - dial for Kennedy receiver we are restoring in A.R.R.L. Museum. Roland Bourne, W1ANA, A.R.R.L., Newington, Conn.

**SWAP or BUY** - early wireless stock certificates. Vance Phillips, W6GH, 1010 Monte Drive, Santa Barbara, Calif.

**WANTED** - Sodian tube for Type DR-6 receiver. Also looking for Omnigraph. Stanley Johnson, 3321 Eastbrook Dr. Ft. Wayne, Indiana

**INFORMATION** or catalog wanted on the old Brooklyn Wireless Co. Any information would be greatly appreciated.

Bern Dibner, Burndy Library, Norwalk, Conn.

**WANTED** - QST Vol. I. Also Nov. 1920, Oct. 1921 and March 1922.

Dr. H. W. Merideth, W5PQA

3912 Anderson Ave., SE, Albuquerque, N.M.

**SWAP** many different receivers - want General Electric built sets, Grebe, CRL Paragon, Amplifigon, Super-Zenith, De forest multipanel, any regenerative sets, schematic for Kennedy 110. Send for swap list. Yates Hoag,

3 Fineview Drive, Utica, N.Y. 13502

**WANTED** - will pay good price for Vol. 1 (1913/14) Gernsback's "Electrical Experimenter" magazines. Also need Oct. and Dec. 1912 issue of "Marconigraph" printed in U.S. Ed Raser, W2ZI,

19 Blackwood Dr., Trenton, N.J.

**BADLY NEEDED** - operating instructions for the Weston Model 660 Set Analyzer and for the Jewell Model 540 Tube Tester. Would like to borrow - will return promptly. Gerald Tyne, 40 Kline Place South, Berkeley Hgts, N.J.

**SELL or SWAP** - have hundreds of early magazines back to 1908 such as Modern Electrics, Electrician & Mechanic, QST, Wireless Age, Radio News, CQ, R-9, etc. Let me know your wants. Pse send SASE first letter. Ed Raser, W2ZI, 19 Blackwood Dr., Trenton 08628, N.J.

**NEED** - wireless sets and spherical audion. Will trade 1913, 1921 Government call books, Wireless Age, QST, Radio News, Duck, Adams-Morgan and Sears Roebuck catalogs. Harry Cap, 190 Beach St., Dridgewater, Mass.

**DR. LEE DE FOREST** - I would like to correspond with fellow historians and collectors who are interested in early de Forest vacuum tubes, gear, catalogs, manuals and circuits. Am particularly interested in early specimens of de Forest tubes. Lad. Schnedorf, W9EWK, 610 Monroe Ave., River Forest, Illinois, 60305.

**SWAP or SELL** - Manhattan and Silver-tone speakers and Stewart-Warner 300 and Erla Monodic receivers plus misc. parts. Want deForest, Grebe and Radiola receivers. Ken Conrad, W2IIE, 5482 Crittenden Rd., Akron, N.Y., 14001

**SWAP or BUY** Wireless Age magazines - October and December 1914, March and December 1917 plus all of 1918. I have duplicates to swap. A.G. Wentzel, W2HX 318 Gardner Ave., Trenton, N.J., 08618

**SELL** - 2 early Edison phonographs with large morning glory type horns. Excellent condition. Jesse York, Tannery Rd. Downsville, New York

**WANT to CORRESPOND** with all owners of McCurdo Silver and Guthman receivers. Need schematic and info on Kellogg 507.

George Publow, Box 590, Picton, Ontario, Canada

**SELL or SWAP** many real early BC sets plus a couple Grebes. Bill Laverty, 118 N. Wycombe Ave., Lansdowne, Penna.

**FOR SALE** - early tubes - VT-1, VT-2, VT-216, 199's, 201A's, 222, etc.

Al Fitch, W3AW,

9406 Evans St., Philadelphia. (15) Pa.

**SWAP or BUY** - Grebe 6, 14 or 18, molded variometers, variocouplers, etc.

Gene Kerns, 875 East Lake Forest Avenue, Milwaukee 17, Wisconsin

## MORSE HOME TO BE MUSEUM

Poughkeepsie, N.Y. - The onetime "Locust Grove" summer home of inventor Samuel F.B. Morse, now a national historic landmark, will become a museum after the death of its present owner.

The museum and an endowment to operate it are specified in the will of Miss Annette I. Young, whose family acquired the house in 1901.

**LOOKING AHEAD** - Charley and Emily Ellsworth, W1TU, unlike most of us, are forecasting amateur history in 2050 A.D. in a story they're writing! Sounds like good copy and we'll be waiting for the release.

## Silent Keys

**WILLIAM C. WHITE**, Schenectady, N.Y., Jan. 30, 1965. Vacuum tube pioneer with General Electric for over a span of 44 years. He worked closely with Langmuir and helped design many of the early tubes manufactured by G.E.

**WILLIAM D. TERRELL**, March 24, Washington, D.C., 93 years. A long career in government radio starting as first Federal Inspector of shipboard installations in 1911. On formation of Federal Radio Commission - he was appointed Chief of Field Activities - a post he retained when it was changed over to Federal Communication Commission...

(Tnx W4ZM) (K3CUI)

**JAMES CLAPP**, W4AU, at Englewood, Fla., son of radio pioneer and he himself an inventor and engineer with General Radio. The A.W.A. received a letter from Jim only a few days before he died. Of historical interest, it will be printed in the next bulletin.

**JOHN H. HAMMOND JR.**, 76 years, in New York City. Holder of many patents, this pioneer had become a legend in recent years. He lived in a medieval style castle near Gloucester which had a moat, drawbridge, towers and battlements. The chief feature of this castle was the great hall with an 85 foot tower housing a gigantic pipe organ! Dr. Hammond was best known for his work in remote radio control devices dating back to 1910. His research continued until only a few years ago. (Feb. 15, 1965)

### HAMMOND ITEMS IN POST MUSEUM

John Hays Hammond Jr. is represented at the Signal Corp Museum (Ft. Monmouth) by nine historic items known as the Hammond Collection. The items all date from 1911 or shortly thereafter and all used at his research laboratories at Gloucester, Mass.

The collection was placed on display by the museum director, Miss Helen C. Phillips, chief of the Museum and Historical Office of the U.S. Army Signal Center and School. Included in the display are Radio Receivers, Type F-3, Amplifiers, Type A-4, Audio Amplifier Type A-3; Transmitter Type TG-5 and TG-9..... (Tnx - Al Fitch, W3AW)

LIQUID BARRETER was a version of the electrolytic detector as used by Prof. Fessenden.....

S.R. MULIARD founded the British tube firm "MULIARD RADIO VALVE CO." in 1920



### A.R.R.L. CURATOR - 1911

Roland Bourne (WLANA), Auburn, N.Y. in 1911. We recognize a Perikon detector and a pair of Holtzer-Cabot phones. Roland sed his antenna was a sloping affair 80 feet high at one end. The best receiving DX was NAX which was confirmed. Transmitting - 15 miles! As most of you know by now, WLANA is the Curator of the new A.R.R.L. Museum in Newington, Conn. If in the area - stop in and see one of the finest collections of early amateur gear in the country.....

A.W.A. MUSEUM PROGRESS - is a long hard struggle! The latest to report is the local Chamber of Commerce is seeking Government Funds to restore the historical building mentioned in an earlier Bulletin - our future Public Museum. If this materializes - we'll be all set...

In the meantime, several of the local members plan a little work in the barn museum when the weather breaks. Several old showcases were recently donated and the building should be ready for visitors by June 1st.

ANCHOR GAP - is not a nautical term! It is a close set of points (gap) in the antenna/ground circuit of a receiver. When a nearby powerful transmitter is in operation - the RF will jump the gap instead of going into the receiver causing possible damage..it also made a good lightning arrestor!

WIRELESS INSTITUTE, mentioned elsewhere in the Bulletin (pin), appeared to have rather a distinguished membership according to a recent letter from Perce, K2DZ. The roll included Fessenden, Pickard, Tesla, Sarnoff, Hogan, Bucher, Goldsmith, Stone, Marriott, Espenschied, Weageant, and others...If you're a historian - you should know something about each one of these pioneers....do you?

**DUES NOTICE** - will be stamped only once on the face of the "Bulletin". Sorry, but there will be NO second notice.....

## A.W.A. NETS

The 11 year cycle with erratic skip on 75 fone has curtailed most activity on this band except the 12 noon local get-to-gether. Stations that have called in include WLNT, W2DTE, W2YBK, W2CTA, W2CE, K2AXE, W2ILE, W2ICE, W2QY, W2ETI, W3UXW, W4ZM, W8JUV, W8MCC and W0OEP. The Net that is now gaining interest is the CW group on 3525 kc. the first Wednesday of each month at 8 P.M. Here are some of the fellows that have or will call in:

W2QY - "Link" Net Control

K2PI - "FRANK" - West Collingswood, N.J. (was with Atwater-Kent, Philco, RCA)

K2NP - "BILL" - Elberon, N.J., ex-WLNP Electronic Engineer - government.

W2SVA - "JACK" - Canandaigua, N.Y. OT commercial "op" with I.W.T., RCA, Inter-City Radio, etc. Now with F.C.C. Monitoring Station.

W2ETI - "RALPH" - Baldwinsville, N.Y. Engineer at old WGY, W2XAD, 2XAF. now in Engineering at G.E.

W3OY - "ART" - Lancaster, Pa., formerly with Marconi and RCA. Now with power company.

K4KFR - "JOE" - Williamsburg, Virginia. Early commercial "op" at Massie station "BI" in 1909, installed Poulsen arcs, etc.

W3UXW - "RAY" - Drexel Hill, Penna. ex-8CPG, OT Engineer with G.E.

W8DYL - "BILL" - Marquette, Michigan. Pres. of Northwest Radio Supply May also call in with call W8EGF.

W9GFS - "PHIL" - Evansville, Indiana. Engineer with G.E. Uses old time equipment. See past bulletins.

W2AN - "KELLEY" - Holcomb, N.Y. A 1929 transmitter is under construction. When this station calls in - be sure and give a long call to allow operator time to tune you in since he will be using an old time regenerative receiver. No break-in pse !

**SPARK TRANSMITTERS TODAY ?** We're not entirely familiar with the technique used but we understand that a "ring type spark transmitter" is being experimented with which will generate tremendous amounts of RF at high frequency. Of pulse nature, powers in the HUNDREDS of MEGAWATT range is possible....going backwards aren't we ?

**ANTIQUA RADIO FOR 1995 ?** Good news for the radio collector 30 years from now - the E.I.A. reports 19,000,000 radios and 9,500,000 TV sets were manufactured in 1964 !

UNITED STATES ARMY

## SIGNAL CORPS MUSEUM

MYER HALL

Avenue of Memories

Fort Monmouth, New Jersey 07703

Museum hours: 1000 - 1630

Monday through Friday

Saturday, Sunday, and holidays  
by appointment only

### PERMANENT EXHIBITS

SYNCOM II SATELLITE

SCORE SATELLITE

VANGUARD SATELLITE—THE SUN IN COMMUNICATION

NORTH KOREAN EQUIPMENT 1950-1953

SIGNAL CORPS ANTARCTIC EQUIPMENT

GENERAL MacARTHUR IN WORLD WAR II

WORLD WAR II JAPANESE EQUIPMENT

WORLD WAR II GERMAN AND ITALIAN EQUIPMENT

RECENT ACQUISITIONS

EARLY AIR-TO-GROUND EQUIPMENT 1914-1918

PHOTOGRAPHIC EQUIPMENT

EDWIN H. ARMSTRONG EQUIPMENT

RADIO TUBES

DESK TELEPHONES

EARLY FIELD TELEPHONES

WORLD WAR I ENGLISH AND FRENCH EQUIPMENT

WORLD WAR I GERMAN AND ITALIAN EQUIPMENT

SIGNAL CORPS WORLD WAR I EQUIPMENT

THE SPANISH-AMERICAN WAR 1898

BATTERIES

TACTICAL RADIOS—TWO DECADES OF MINIATURIZATION

CRYPTOGRAPHY

THE SIGNAL SCHOOL INSIGNIA

GENERAL MYER HISTORICAL COLLECTION 1856-1880

SIGNAL CORPS UNIFORMS 1860-1960

CIVIL WAR EQUIPMENT

MEMORIALS FROM THE SIGNAL SERVICE OF FOREIGN ARMIES

RADAR

(The above information was received from W2ZI and W3AW)

**WOLLASTON WIRE** - is extremely fine platinum wire (approx. .001" dia.) with a light coating of silver. This outer coating is dissolved at the point when used in an electrolytic detector. Where can one purchased this wire today ?

**LEYDEN JAR** (condenser) received its name from the city Leyden, Holland where it was invented.....

**PERIKON DETECTOR** utilizes a piece of zinite in firm contact with a piece of chalcophyrite....



## BOOK REVIEW

**"EARLY ELECTRICAL COMMUNICATION"** by E.A. Marland (1964)(\$6.00) Mostly land-line telegraphy and telephony. Very well illustrated.

**"HORSELESS CARRIAGE DAYS"** by Hiram Percy Maxim (1962)(\$1.35) Soft cover. Dover Publication. Written by Founder of ARRL and makes nice copy for the bookshelf.

**"THE MARCONI SCANDAL"** by Frances Donaldson (\$5.75)(1962) pub. by Harcourt, Brace and World. We finally got around to read this book and found it of average interest. As you may recall, it concerns the controversy regarding the British Government Contract with the Marconi Co. for the erection of high power wireless stations throughout the empire in 1912.

Certain public figures of high office supposedly took advantage of prior knowledge of the contract and purchased Marconi stock, etc.....

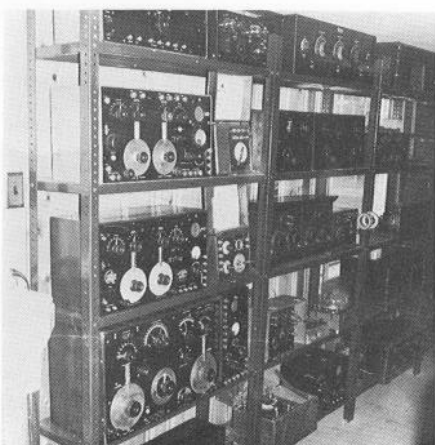
**"EARLIEST ELECTROMAGNETIC INSTRUMENTS"**, Item 5A, Paper 38, SL3.3;240 of the National Museum, Bulletin 240. Order from the Government Printing Office, Washington, D.C. - Price 25¢...We haven't seen this bulletin but like most government publications - they are well worth the money. (Txn WØOEP)

**"MY SAN FRANCISCO STORY OF THE WATERFRONT AND THE WIRELESS"** by Richard Johnstone (\$2.75)(1965) This very interesting book was just received and we highly recommend it. It is the biography of a pioneer wireless operator telling of the early days of wireless along the Pacific Coast. Tales of the old Marconi Station "PH" (KPH), tragedies at sea, call letters of early vessels and their operators all make this book one of the best buys of the year! Send \$2.75 to Richard Johnstone, 67 Heather Way, Larkspur, Calif., 94939 (Txn WGAX)

**"ON THE EARLY HISTORY OF RADIO GUIDANCE"** by Benjamin Franklin Miessner. Publ. by the San Francisco Press, 255 12th St., San Francisco, Calif. (1965) (\$2.75)

This is another very fine book published out in California. Slightly different than the one above, it covers the work of many pioneer inventors. The author himself is an inventor of note - his outstanding invention being the practical approach to AC receiver design doing away with cumbersome batteries.

One can read about Tesla, Lowenstein, Hammond, Armstrong, de Forest, etc. We very strongly recommend the purchase of this book....if for no other reason than good books on historical radio are so far and few between ....



### NATIONAL A.W.A. MEET OCT. 9

The above photo is just a teaser of the many things you will see at the Gray Wireless Museum when you attend the National Meet in October. Start making your plans now. Complete info in the summer Bulletin.

**KOLSTER RADIO CORPORATION** when at its peak (in the late 20's) had its headquarters in Newark, N.J. with Brandes subsidiaries in Canada and England and the Federal Telegraph Co. in San Francisco. Officers of the company included Ellery Stone, Dr. Frederick Kolster, Herbert Frost and Frederick Dietrich.. how many of these names do you recognize

**LITZ** wire is abbreviated from the German word Litzendraht meaning "braided wire".....

### "THE OLD TIMER'S BULLETIN"

A news bulletin printed for members of the Antique Wireless Association.

Editor: Bruce Kelley, W2ICE/QCP  
Publishing Editor: Larry Triggs, W2YBK

### ANTIQUA WIRELESS ASSOCIATION

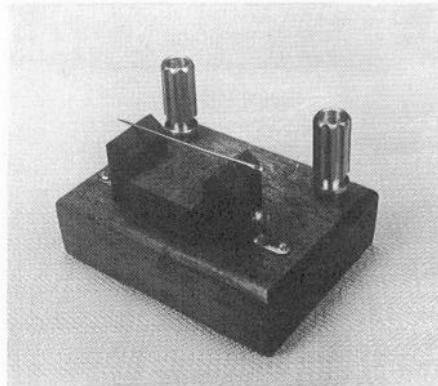
A.R.R.L. Affiliate

An organization documenting the history and technology of wireless and the work of its pioneers.

Club Station: W2AN

**Annual Dues:** (including the "Old Timer's Bulletin", certificate and other benefits) - \$2.50 per year payable to Club Treasurer:

Lincoln Cundall, W2QY  
69 Boulevard Parkway  
Rochester 12, New York



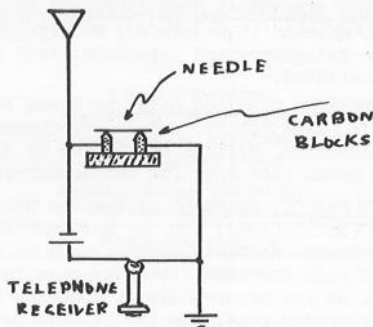
### IMPERFECT TYPE DETECTOR AT A.W.A.

by Lincoln Cundall, W2QY

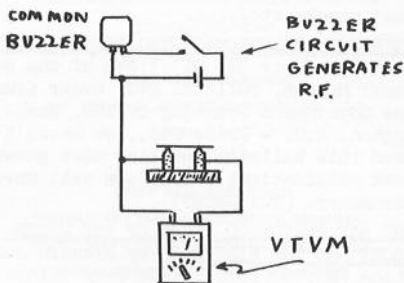
It probably can be said that the rate of progress of wireless telegraphy paralleled the development of sensitive and reliable detectors. The imperfect contact type which included metal filings coherers, carbon mercury, steel carbon, steel aluminum and silvered mirrors enjoyed a brief period of popularity. Some were self-decohering and others were not. With some combinations the resistance increased upon being acted by wireless signals while others exhibited a reduction in resistance.

The needle carbon type shown here was used by Walter W. Massie on several steamboats plying between New York City and Fall River, Mass. The normal resistance of this type of detector was approximately 40,000 ohms and with a battery connected as shown a roaring sound would be heard in the phones. The wireless wave current would drop the resistance to about 1000 ohms and a buzzing sound, corresponding to the

### ORIGINAL CIRCUIT



### CIRCUIT FOR DEMONSTRATION



RF in circuit lowers resistance  
which is indicated on VTVM

dots and dashes, could be heard in the phones. It would de-cohere automatically. The replica as pictured is simple to make. Be sure and have a sharp corner on top of the carbon blocks. I use an ordinary sewing needle as shown.

### ECHOES FROM OTTER CLIFFS

by Emily Ellsworth

(Reviewed from "Down East" magazine, Nov., 1964, printed in Camden, Maine at 50¢ a copy)

Otter Cliffs, Maine, was the summer home of wealthy steamship owner Alessandro Falbri who was also an avid radio amateur. Experiments showed that the location was ideal for radio. Co-operating with the Government, the site became officially known as Naval Radio, Bar Harbor, Aug. 28, 1917 with the call NBD. The transmitter was 26 miles away at Seawall. Radiomen Suetter, Dutton, Ellsworth and Elliott and others including Orrin Dunlap served at this famous WWI installation handling hun-

dred of messages each day...in fact, it is believed no other station has ever handled the same amount of traffic in the same period of time using conventional methods.

Diminishing government traffic after the war and the establishment of RCA stations, traffic decreased until by 1923 the station was handling only a few a day. The installation was finally dismantled in 1934. The full story is in "Down East" magazine. It was also printed in the recent OOTC "Spark Gap Times". (Ed. note - the AWA is very fortunate in having a lengthy recording in the tape library of OOT Ellsworth, WLTU, describing this station. In addition, WLTU describes many other adventures as a pioneer wireless operator.)

## WHAT IS A RADIO ANTIQUE ?

By Wayne Nelson, W4AA

It's risky to say: "I collect radio antiques." Odds are ten to one the comeback will corner you, like this: "I have an old radio set; how much do you suppose it is worth ?"

Note the definition of "Antique", viz: "Of, pertaining to, or having come down from ancient times; said especially of the relics of classic civilization. According to the rulings of the U.S. Treasury Department, any article made prior to A.D. 1700 is antique and hence not dutiable."

This leaves a radio antique collect-or out in the cold. It disqualifies the bona fide lab equipment of Stephen Gray, who in 1729 contributed to science the knowledge of a differentiation between insulators and conductors. Nor could we touch Ben Franklin's 1751 discovery of the lightning rod. No comfort here. Read on, we take heart from the words: "rare, old, old fashioned." Note these words for possible help and use.

Our knowledge of the graphic arts is limited by the dwindling away of thousands of years back of more specific historical records. Wireless is so new that we suffer less limitations. In a span of a few hundred years we note the simple and fundamental discoveries, many of them related to electricity in general, but practically all essential to successful wireless operation. A short century embraces the actual workable part of radio. In electricity in general immortalizing credit has been accorded by close name association, as for instance, Galvani, Volta, Ohm, Henry, Morse and Faraday. One tireless worker in wireless who co-ordinated many of the prior discoveries with his own resourcefulness was Heinrich Hertz, who set up the first spark transmitter and receiver, measured the velocity of these waves and found they were the same as light, 186,000 miles per second. His accomplishments came to public notice in 1887, paving the way for Marconi's later success. The year 1892 saw application of the coherer by Branly to wireless work. Tesla's 1893 coil was in reality a broadband wireless transmitter, and a few years later Nikola Tesla demonstrated actual wireless remote control of moving ship models. In 1895 Pupin patented circuit tuning or "resonating" devices. Marconi, from a distance of just one mile in 1895, incessantly kept at it until in 1901 he spanned the Atlantic by wireless signal.

Some specific date is needed, prior to which a specimen may be called antique. 1920 is recognized as the beginning of broadcasting. Then the widely used spark transmitters and crystal detector began rapid decline, soon was "old fashion" and out of use. By 1925 (soon after which a.c. operated sets became general) nearly five million battery operated sets were made and sold, "bloopers, neutrodynes, tuned radio frequency sets and super-hets. Thousands of these are still around, not "rare", "old", but definitely "old fashion". They exhibit the electrical and mechanical ingenuity of many minds who created a workable product.



Hence, our definition:

"A radio antique is a wireless or radio transmitting or receiving apparatus, or set, or some part thereof, made for, used in, or representative of the art of wireless telegraphy and/or telephony, as practiced before the beginning of radio broadcasting in 1920, though specimens of some of the early battery operated sets used as late as 1925 are often included by collectors and museums..."

Adherence is seldom as rigid as definitions are specific. There is always a border-line, often crossed over. Just as the Treasury Department will years hence find need to revise its own prior dates for antiques in general, so will the pattern for radio antiques eventually call for revision.

A collector is referred to as an "antiquist" or "antiquary". Do not make the mistake of calling yourself an antiquarian, this is one who adheres to antiquated ideas or notions !

ELECTROLYTIC INTERRUPTER was the mysterious jar in the lower left corner of the picture on page 13 in the last OTB. WØROA sez it was modeled after the E.I. version. It allowed him to screw the vibrator tight on his Cadillac spark coil. Yes, the lights flickered when he pressed the key !

# Winter Trip To Washington

A BANQUET - - Leaving behind a rough winter journey through a snow blizzard in upstate New York, we crossed Pennsylvania and Maryland and ended up in Arlington, Virginia - our headquarters for 4 day visit. Ed Redington, W4ZM, promptly picked me up and the race was on. Ed, by the way, is a retired Commander of the U.S. Coast Guard and now Engineering Representative for Electronics Industries Association in Washington. Instead of retiring, he finds himself busier than ever dashing off to Paris, San Francisco and other sundry places on routine business.

W4ZM drives a convertible which he expertly maneuvered through a maze of streets and fleeting headlights. We abruptly halted in front of a large hotel where he said, "I can't park here, do you know Clarence Tuska? If so - go in and get him - he's riding with us." Guiding Clarence to the car, I promptly showed my manners and dropped into the rear seat and with a roar we were off again - this time to pick up George Bailey, W2KH, former A.R.R.L. President and Secretary of I.R.E. No one knew where George lived but W4ZM using "dead reckoning" method screeched to a halt in front of a house in some remote area and said, "I think this is it." Sure enough, out came Bailey and we were off again for the Olney Inn - somewhere in Maryland.

These three old pro's really knew their business so for once I kept my mouth shut except when I asked Tuska about his association with A.C. Gilbert. Clarence gave us the impression he was not entirely pleased with this part of his radio career since Gilbert wanted to make radios like toys. Enuf sed. As things got deeper - I said less.

In about 30 minutes we were at the Inn (it would have taken me 3 hours!) in which were circling all kinds of wheels. My old friends Ted Duvall and Tom Appleby were there to greet me and in short order I registered in with Liz, W3CDQ, and things began to happen. Right off I ran into Bruce, W3QA and Rod, W3KKY - he is the fellow who constructed the magnetic detector pictured in the last bulletin. Rod lamented over the fact that he could not find small iron wire for the moving core. This fellow deserves alotta credit since construction of this type of early gear is quite difficult.

Through the crowd I spotted Ivan Loucks, W3GD, F.C.C. Head who I was suppose to



Ivan Loucks, W3GD (F.C.C. Head) agrees to be Guest of Honor at New York Hamfest.

contact for the local club. Using a negative approach I asked Ivan if he would be the guest of honor at the W.N.Y. Hamfest. He took me completely off guard by accepting immediately leaving my "sales pitch" hanging in the air. A little later W3GD told us he was retiring from the F.C.C. in June.

In the darkness (all cocktail lounges operate in candlelight) I made out W2MM (QCWA President), Grenfell (F.C.C.), Huntoon (A.R.R.L.), Gen Earle Cook (U.S.A. Sig. Corps), Gil Crossley (Atlantic Director), W3ECP (MARS) and other luminaries (that's a gud word!)

I was seated with the Potomac Valley Radio Club group opposite Vic Clark, W4KFC, and was completely out of place since this gang were crack CW contest operators - my code speed at best was never over 25 W.P.M. W4KFC with W4ZM were instrumental in obtaining the Marconi 1 KW Quench Gap transmitter pictured in last spring's OTB.

Following dinner and many introductions by local QCWA President W3RE, "Robby" introduced Tuska as the main speaker of the evening. Clarence touched on the high spots covering the founding of the A.R.R.L. starting with HPM's father who was the inventor of the machine gun. Excellent historical information by the co-founder of the League.

Tuska's entire talk was tape recorded for the A.W.A. by W4ZM. Other A.W.A. members present included Jim Burns, W3KOU and Ed Darne, W3BWT, who I met for the first time. All told it was a very successful shindig.....

A FACSIMILE MACHINE - - A few months ago I received a nice letter from Mrs. Henry Knutson in Falls Church say-

ing she had 2 facsimile machines she was throwing away or giving to the Salvation Army unless someone picked them up. Falls Church being nearby, my brother-in-law and I drove over and found a familiar situation - a widow suddenly left with all kinds of electronic equipment and the need to move to smaller quarters. We advised her to place an ad in the local newspaper to sell the hi-fi equipment and give the miscellaneous parts and tubes to the local high school electrical department.

The only historical items were the 25 year old facsimile machines. One was the familiar RCA which we suggested she give to the New England Wireless Museum since the A.W.A. already had one. The other was a rare "Finch". This machine works on a different principle than the RCA. Instead of a cylindrical spiral arrangement - the Finch uses a stylus actuated by a cam.

Mrs. Knutson's husband was Professor of Electrical Engineering at Lehigh University. In this capacity he did considerable work in the facsimile field during the late 30's and early 40's. The war terminated facsimile newspapers in the home. It was replaced after the war by TV.

**AN OLD TIME TELEGRAPHER** - - Having corresponded with Bob Hurley, retired White House Communication Officer, I thought it would be kinda nice to give Bob a call and say "hello". Naturally, I had lost his address and telephone number so the most obvious thing to do was call the White House! Sure enough, within 30 seconds they had us connected. Bob asked me where I was staying and it develops we were only 5 blocks apart! This called for a personal visit.

I was warmly greeted at the door by a friendly Irishman with a twinkle in his eye. After pleasantries of the day I pumped Bob about some of his experiences. He was a thorough historian and called to my attention that many "greats" were one time "morse" men. He rattled off names such as Arthur Godfrey, Westbrook Pegler, former Governors of Colorado and California - Gov. Johnson and Gov. Olsen, then Gene Autry, Dave Sarnoff, Gen. Frank Stoner, Dick Sears of Sears and Roebuck, Julian Price - Pres. of Jefferson Life Insurance Co., John LaGorce - Assoc. Editor of National Geographic plus several railroad presidents and many others including early pioneers such as Thomas Edison.

Being unfamiliar with morse history, Bob had a willing listener. He acquainted me with the use of symbols such as "30",

"5", "13" and of course "73". I was particularly impressed with a fine collection of photographs autographed and presented to him by various Presidents over a period of 35 years. I asked him which he liked the best. "Old Herb Hoover," he replied, "was my favorite." This may not have any bearing on the case but I remembered that Hoover was very partial to all forms of communication and his son, W6ZH, is now President of the ARRL.

11 o'clock rolled around and I bid Bob "goodnight". I hope this fellow will write a book about his experiences. It will be good reading.



Tom, Ted and Elliott examining an early de Forest responder.

**A MUSEUM** - - Ted and Tom made an appointment for the three of us to visit the new Smithsonian Science Museum. We found Elliott, W2JXL, Asst. Curator, whom I have known for several years, waiting for us in his office. The room was full of large blue file boxes - floor to ceiling - well over 400 to be exact. The boxes were labeled with such enticing names as Fessenden, W.S.A., de Forest, Alexanderson, etc. We were told that we were looking at the famous George Clark historical manuscript collection recently acquired from M.I.T. Realiz-



Elliott listens as Tom tells about using the Type "D" tuner in 1911 when with United Wireless.



ing it would take 10 years to go thru this material, he hurried us to a large storage area where we were engulfed in rows of long metal racks covered with one of the most fantastic collections of electrical equipment we've ever seen. I immediately spotted Paul Watson's tube collection stored against one of the walls with several early TV sets. Our attention, however, was directed toward many weird looking instruments we couldn't identify. Elliott informed us we were looking at early prototypes from the Patent Museum - many of which were impractical and never developed.

As we wandered up and down the aisles we recognized equipment manufactured by de Forest, Marconi, Grebe, W.S.A., N.E.S.CO., Federal, Amrad and other early companies. We were very impressed with the very fine collection of early telegraph and telephone equipment some of which were in excellent condition and other badly in need of repair.

**THE CURATOR** - - "I would like to have you meet the boss," said Elliott as we followed him down the corridor and entered a large office. A moment later a young fellow in shirt sleeves entered and we were introduced to the Curator, Dr. Bernard S. Finn. He was not my idea of a curator. Curators are elderly men in worn blue serge suits, rimless glasses, long white beards carrying magnifying glasses.



Dr. Bernard Finn (left), Smithsonian Curator of Electricity, pauses with W2ICE as Ted Duvall snaps picture..

Slipping on his coat as he talked, Barney suggested we go on a personal tour of the museum. It didn't take long to realize this young scientist was well qualified for the position he held. He easily changed from a discussion on satellite communication to the history of early A.C. power transformers made in Hungary. The latter were on exhibit and of unusual construction having been made sometime I believe in the 1890's.



Seated with Potomac Valley Radio Club. W4KFC at left foreground and W4ZM at right.

This might be a good time to give my impression of museums. Apparently there are two types - "volume" and "specialized". The Ford Science Museum in Dearborn fits into the first category. Here they exhibit everything they have with few planned exhibits showing development or equipment in actual operation. This type of museum is a paradise for the historian who wants to see everything and has the time to do so.

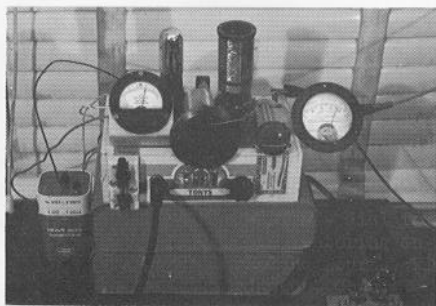
The other, of course, is the "educational" museum like the Smithsonian which has carefully planned exhibits for everyone. Certain areas are more or less permanent such as the telephone exhibit. Others are periodically changed with the Curator bringin in equipment from storage for temporary display. There is some overlapping in both types of course. I like both the Smithsonian and the Dearborn museums and find each has its merits....

Not wishing "to kill" my story with a lengthy description of this fabulous place we merely say "A visit to the new Smithsonian Science Museum is a MUST and plan to spend at least a day if not a week.."

At 3 o'clock we suddenly realized we were hungry. Bidding Barney farewell, Elliott escorted us to a nearby restaurant which unexpectedly turned out to be hallowed ground. Tom was all excited - "This is the location where Mahlon Loomis, pioneer inventor had his office 80 years ago !".....

enuf fer nw, 73 BK..

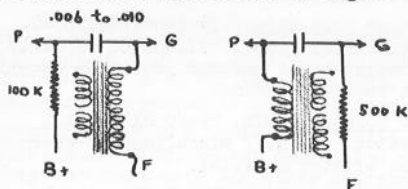
NAA - most associate old NAA as being in Arlington. Actually, the original QTH was listed as Ft. Myer - all and one the same place !



### THE POWERFUL LITTLE ONE WATER

A pseudo replica of a 1928 battery powered xtal oscillator CW xmt'r using a UX-199 tube on 160 meters and demonstrating the forerunner of the metal chassis - the cigar box. Cigars must have been larger in those days! Note 75 ma. antenna current! First contact was made in June of 1964 - a 200 mile circuit...(no, my name is not Tony!)  
 - - - Ralph Yeandle, W2ETY

**BURNT OUT AUDIO TRANSFORMER?** In restoring an old set one frequently finds the audio transformer open. With modern compact components you can bridge around as indicated and hide the condenser and resistor inside the can out of sight.



### OPEN PRIMARY      OPEN SECONDARY

**NEWS FLASH!** the magazine "WIRE AND COMMUNICATION" is no more..Starting with the March issue it is now part of the magazine "COMMUNICATION NEWS" published in Wheaton, Illinois.

The defunct magazine has had a long and varied history. It started out 82 years ago (1883) as the "TELEGRAPH & TELEPHONE AGE". As a result of the need to include "Radio" and and a change in organization, the name was changed to "Wire and Communication".

It would appear that the old magazine has just about disappeared since the general format of "Communication News" is quite unlike the magazine it absorbed - being more of a newspaper with very few articles. We were disappointed in not seeing the familiar VWOA column. Does this mean this veteran association will be left without a column or news bulletin?

### COMING EVENTS FOR THE OLD TIMER

The A.W.A. will present the new "120 YEARS OF BRASSFOUNDING" at the Syracuse, N.Y. Hamfest Saturday, April 24. Write W2YRL for information and reservations.

### S.F.B. MORSE BIRTHDAY BANQUETS

Saturday, April 24  
 sponsored by various chapters of the Morse Telegraph Club

70 stations throughout United States and Canada will be connected by a Morse Circuit through the courtesy of Western Union and Canadian Pacific Railroad.....

### ANNUAL OLD TIMER'S NITE

Saturday, April 24  
 sponsored by the Delaware Valley Radio Association and held in Trenton New Jersey. Tom Appleby will be main speaker. Write A.G. Wentzel, W2HX for additional information and reservation.

### A.W.A. SPRING DINNER AND MEETING

Sunday, April 25  
 (Note change in date!)  
 QTH: Bob O'Neil, K2AXE, Ithaca, N.Y.  
 Advance reservations absolutely necessary. Write: 210 Taylor Place

### OLD TIMER'S NITE

Saturday, May 8  
 Dearborn Science Museum, Dearborn, Mich.  
 Luncheon - Banquet - Program  
 See inclose 'flyers' for info

### W2UTH, A.W.A. Historian

will present the new version of "THE WORLD ABOVE 50" at the Northern New York Hamfest, Saturday, May 8  
 Potsdam, New York

### A.W.A. OLD TIMER'S LUNCHEON and PROGRAM

Western New York Hamfest, Rochester, N.Y.  
 Saturday, May 22, 12 noon

**OPEN HOUSE AND DINNER** at A.W.A. Museum, Saturday Evening, Aug. 14  
 (more info in summer Bulletin)

### NEW ENGLAND MEET

New England Wireless Museum  
 East Greenwich, R.I.  
 (Date and info to be announced)

### NATIONAL A.W.A. MEET

Saturday, Oct. 9  
 Gray Wireless Museum, Mason, Ohio  
 (full info in Summer Bulletin)

## AMATEUR MUSEUMS AND COLLECTIONS

owned by A.W.A. Members

The following list was made from the club's file. It is NOT a complete list since we may have overlooked a few and several indicated they did not wish to be listed for personal reasons. If you have been left out - let us know and we'll add you to the list. Again, we stress the courtesy of contacting the owner BEFORE you make a visit. These are private museums in member's homes and require an invitation.

### EASTERN

National Telegraph Museum, Stuart Davis, 1149 Weber St., Union, N.J. Excellent collection of early landline instruments.

Harry Cap, 190 Beech St., Bridgewater, Mass. Modest collection of early BC receivers, couplers, tubes, and books.

Selwyn Blake, 186 Summer St., Andover, Mass., Phone 617-475-5098. Has complete "Wireless Office" of WWI in operation with Quench Gap xmtr and receiving gear.

Rodney Melhuish, W3KKY, 1217 Brandford Rd., Catonsville, Baltimore, Md. 21228. Tele. RI-7-1195. Collection of early ham gear, BC sets, tubes, books, etc.

Bill Gould, 926 Woodgate Ave., Elberon, N.J. Primarily book and magazine collector - has some gear.

Yates Hoag, 3 Fineview Drive, Utica, N.Y. Collection of BC sets, tubes, magazines and misc. gear.

Ted Hannah, 11106 Bybee St., Silver Springs, Md., Fine collection of early BC sets and other gear.

Frank Pagano, 1835 West 7th St., Brooklyn, N.Y. Unusually large collection of broadcast receivers and other material.

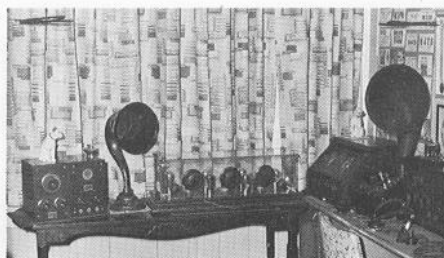
Fred Parsons, W2EXM, 2747 Edgehill Ave., New York City, 10463. Fine collection of written material and photographs plus some gear.

George Publow, Box 590, Picton, Ontario, Canada. Modest collection of BC receivers and other material.

Morgan Rich, 22 Burnocot St., Worcester, Mass. Nice collection of early broadcast sets all in operation.

Lou Rizoli, W1AAT, 422 Lafayette, Salem, Mass. Large collection of early commercial gear, misc. material plus early key collection.

Ed Raser, W2ZI, 19 Blackwood Dr., Trenton, N.J., Exceptionally large collection of all kinds of early commercial and amateur gear, written material plus keys.



### K2PI COLLECTION

This modest picture appeared on the recent cover of "Harmonics", official publication for the South Jersey Radio Assn. Although not an ardent collector, Frank does have some choice pieces which are located near his modern gear. I believe one can recognize the RA receiver at left, then a Saal horn speaker, a Radiola 20 and III with an ARL300 at far right. The choice item, of course is the beautiful "Delores" plate glass receiver in the center.

Will Andrews, W2ONE, 53 Orlando Ave., Albany, N.Y., Fine collection of early landline instruments and 'morse' material.

John Baum, K2VZB, 969 Douglas Ave., Wastagh, L.I., N.Y. Miscellaneous equipment including books and magazines.

George Applegate, W2IA, Jonestown Road, Oxford, N.J. Modest collection of early commercial and amateur gear plus excellent book collection.

Bob Cobaugh, W2DTE, 29-29 213th St., Bayside, (60), N.Y. Miscellaneous gear plus written material.

Ken Conrad, W2IIE, 5482 Crittenden Rd., Akron, N.Y. Nice collection of broadcast receivers plus some early amateur and commercial gear.

Link Cundall, W2QY, 69 Boulevard Pkwy., Rochester 12, N.Y. Although most of his gear is in the AWA Museum he has many pieces at home plus large book library.

Charles Fernandez, W1LDD, 81 Warren St., Roxbury 19, Mass. Miscellaneous equipment and written material.

Russ Worthy, 18 Spring St., Williamstown, Mass., (this address good only weekends) Very fine collection of classic BC sets.

J.A. Worcester, RD #1, Frankfort, N.Y. Misc. collection of early BC sets.

A.G. Wentzel, W2HX, 318 Gardner Ave., Trenton, N.J. Modest collection of early gear, written material plus early telephones.

Phil Weingarten, 67-61 Alderton St., Forest Hills, N.Y. 11374 Misc. collection mostly BC plus written material.

Earle Young, 450 Magee Ave., Rochester 13, N.Y. Exceptional collection of rare tubes plus some early receivers.

Bob Shaw, Temple, New Hampshire. Nice collection of broadcast receivers and other misc. equipment.

Howard Schrader, 23 Lillie St., Princeton Junction, N.J. Tubes - may be the largest collection in the world.

George Starry, 612 James, Latrobe, Penna. Modest collection of commercial and misc. equipment.

Gerald Tyne, 40 Kline Place South, Berkeley Heights, N.J. Excellent tube collection and written material on same.

Bill Laverty, 118 N. Wycombe Ave., Lansdowne, Penna. Huge collection of broadcast, commercial and amateur equipment.

New England Wireless Museum, W1NTE, Tillingham Rd., East Greenwich, R.I. Exceptionally large collection of all kinds of radio gear plus fine library and material.

Fred Penard, 65 Maple St., Norwood, Mass. Small but fine collection of early receivers and tubes.

Bob O'Neil, K2AXE, 210 Taylor Place., Ithaca, N.Y. Large collection of broadcast, commercial and amateur receivers.

#### CENTRAL UNITED STATES

Bill Jackson, W8DYL, 1 mile west of Marquette, Mich. on US 41. Tele-226-2727. Small private museum of misc. equipment.

Victor Beyer, 3919 W. Custer Ave., Milwaukee, Wis. 53209. Modest collection of early broadcast sets and other material.

El Freeman, Yankton, South Dakota. Nice collection of early commercial/amateur gear plus landline instruments. (KØMOA)

Oren Gambill, W5WI, 3710 East 36th St., Tulsa, Oklahoma. Modest collection of early amateur equipment.

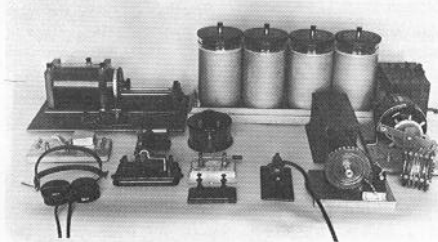
Gray's Wireless Museum, 500 Church St., Mason, Ohio. Exceptionally large collection of all kinds of early wireless gear plus fine library.

Richard Howe, W8CBN, 420 East Broadway, Granville, Ohio. Curator for modest collection of very early equipment at Dennison University.

Dr. Russell Hanselman, 914 Columbian Ave., Oak Park, Ill. Nice collection of early broadcast sets plus some commercial gear.

Phil Hatfield, W9GFS, 752 Stewart Ave., Evansville, Ind. Early amateur equipment in operation plus modest collection.

Lloyd Petry, 2150 Aztec Lane, St. Paul 18, Minn. Modest collection of early broadcast receivers and other material.



#### CATONSVILLE, MARYLAND

The above photos are of Rod Melhuish, W3KKY, collection in Catonsville, Md. The pictures were sent to us by Bruce, W3QA who works closely with Rod on his collection and experiments (magnetic detectors). The boys always welcome visitors, however, be sure and telephone or write in advance.

Joe Pavak, WØEFP, 55 So. 12th St., Minneapolis, Minn. 55403. Large collection of all kinds of wireless gear plus written material.

Frank Smith, W5VA, P.O. Box 840, Corpus Christi, Texas. Exceptionally large collection of all kinds of wireless gear plus fine library.

Maurice Stahl, 315 Harmon St., N. Canton, Ohio. Nice collection of early light bulbs and tubes.

Charles Stinger, W8GFA, 3020 Griesmer Ave., Hamilton, Ohio. Modest collection of early receivers and phonographs.

L.J. Schnedorf, W9EWK, 610 Monroe Ave., River Forest, Ill., 60305. De forest material - tubes, sets and written material.

E.C. Sedberry, 204 Chanticleer Lane, Hinsdale, Ill., Modest gear collector and landline (Morse).

T.A. Reville, W5WB, 702-B N. Fillmore St., Amarillo, Texas. Modest collector-amateur, commercial and broadcast.

Gene Kerns, 875 E. Lake Forest Ave., Milwaukee 17, Wis. Exceptionally fine collection of broadcast, amateur and commercial receivers plus written mater.

Dave McKenzie, KØSVJ, 1200 W. Euclid, Indianapolis, Iowa. Modest collector of gear plus written material.

Peter Kallus, 4625 Clausen Ave., Western Springs, Ill. Fine collection of tubes and written material.

Frank Nichols, W9AKH, 720 East Eldorado St., Appleton, Wis. Modest collection of gear plus phonographs.

Wayne Nelson, W4AA, Box 72, Concord, N.C. Exceptionally large collection of all kinds of wireless gear plus fine library.

Ralph Dorris, 317 Wesleyan Place, Owensboro, Kentucky. Misc. gear collection and written material.

Charles Furtak, 241 Oak St., Elmhurst, Ill. Modest collection of BC sets.

Tate Thetreau, W8FX, 27209 W. Six Mile Rd., Detroit, Mich. Most of his gear is in local museums but he still retains fine key collection.

Vern Thompson, W9JWW, 1403 S. 4th St., Effingham, Ill. Very fine tube collection and misc. gear.

Sam Weidner, W0QW, 1131 S. Main Street, Ottawa, Kansas. Modest collection of BC sets and other gear.

#### PACIFIC COAST

Paul Thompson, 1300 So. Main, Las Vegas, Nevada. Fine collection - mostly broadcast receivers.

Hallmark Radio Museum, Floyd Lyons, Elks Club, 456 Post St., San Francisco, Calif. Excellent collection of early tubes and electric light bulbs..some gear. Write in advance since he is at sea great deal.

Mountain Museum, Sam Corpe, W6LM, Wrightwood, Calif., Tele. 714-CH-9-3828. Usually open 1 to 5 PM except Mon. and Tues. All kinds of radio equipment.

Paul Giganti, W6GVY, 2429 San Carlos Ave., San Carlos, Calif. Large collection of amateur and commercial equipment.

Warren Green, W7JY, 7202 N. Mercer Way, Mercer Island, Washington. Fine collection of early commercial and amateur gear plus exceptional library.

Vance Phillips, W6GH, 1010 Monte Drive, Santa Barbara, Calif. Exceptional collection of rare commercial and amateur equipment. No BC. Fine library.

Howard Pyle, W7OE, 3434 74th Ave., S.E., Mercer Island, Washington. Fine library - most of his gear is in Seattle Museum.

R.S. Palmer, W7RD, 17211 Second Ave., Bothell, Wash., Modest collection of gear and written material.

Erv Rasmussen, W6YPM, 164 Lowell St., Redwood City, Calif. Large collection of amateur and commercial gear - transmitting and receiving plus magazines.

Bill Traver, PO Box 365, Pollock Pines, Calif., All types of equipment - commercial, amateur and broadcast.

Lou Moreau, WB6BBO, 2084½ Lewis Ave., Altadena, Calif. Exceptionally large and fine collection of historical land-line instruments and written material.

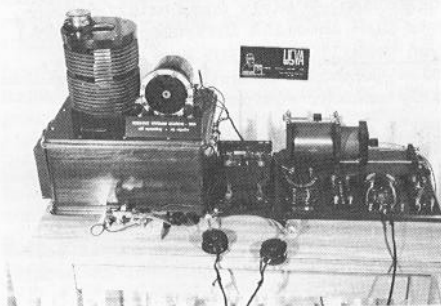
Thorn Mayes, W6AX, 21120 Sullivan Way, Saratoga, Calif., Modest collection of gear plus written material and magazines.

Dexter Bartlett, 7405 N. Wall St., Portland, Oregon. Small collection of commercial gear plus good collection of written material.

Earl England, 6651 Pollard St., Los Angeles 42, Calif. Large and exceptionally fine collection of all kinds of radio equipment plus phonographs.

A.W.A. Museum, Main St., Holcomb, N.Y. Tele. 315-657-7480. Bruce Kelley. Many members who have only a few pieces of equipment display their collection here making one large museum covering all phases of radio (and landline).

We tried to do our best with the limited information at hand. If you like to have another listing next year, let us know - and at the same time send your telephone number and possibly better fill-in copy.



#### MURDOCK WIRELESS STATION

This neat little setup is one of the several at W5VA. The transmitter, of course, is at the left and rx at right. The object in the center which is kinda hard to see is the familiar Murdock antenna switch...Yes, both units are in operation !



We reproduce herewith (with publisher's permission) the names of vacuum tube manufacturers appearing in the 1926 McGraw-Hill "Radio Trade Catalog". The list covers only 2 or 3 electrode tubes for detection and amplification. Tradenames are also shown. All told, there are 108 different manufacturers !

## TUBES, Vacuum

*Two or three Electrode Vacuum Tubes for Radio Detection and Amplification*

Ablett Co., Charles R., 22 Reade St., New York, N. Y. "Sky-Sweeper"  
Aerodyn Co., 1780 Broadway, New York, N. Y.  
Aladdin Mfg. Co., 55 Hoyt St., Newark, N. J.  
Alladin—see Continental Sales Co.  
Allan Mfg. Co., 117 Windsor St., Arlington, N. J. "Alltron"  
Alltron—see Allan Mfg. Co.  
American—see Roberts Radio Co.  
Amplitrone—see Pennant Radio Laboratories  
Apeo Mfg. Co. 1200 Eddy St., Providence, R. I.  
Cataloged on page.....94  
Arion—see Electric Sales Co.  
Armor—see Armstrong Electric & Mfg. Co.  
Armstrong Electric & Mfg. Co., 351 Halsey St., Newark, N. J. "Armor"  
Artee Radio Sales & Mfg. Co., 16 Hudson St., New York, N. Y. "Peertron"  
Atlantic Electric Lamp Co., Danvers, Mass.  
Atlas Radio Corp., 3 Foster St., Peabody, Mass.  
Audion—see De Forest Radio Co.  
Baker-Smith Co., New Call Bldg., San Francisco, Cal. "Sylvan"  
Barkeley Electric Mfg. Co., Middletown, Ohio  
Bear Radio Products Corp., 207 Market St., Newark, N. J.  
Belltone—see Radio Tube Laboratories  
Bennington Radio & Electric Mfg. Co., 522 Main St., Bennington, Vt. "Bremco"  
Birk-Morton Vacuum Products Co., Owensboro, Ky. "B-M"  
Blue Bell—see Branford Radio Mfg. Co.  
Bluebird Tube Co., 200 Broadway, New York, N. Y.  
B-M—see Birk-Morton Vacuum Products Co.  
Boehm Radio Co., 304 Canal St., New York, N. Y.  
Branford Radio Mfg. Co., 1145 Fox St., New York, N. Y. "Blue Bird"  
Braun Co., W. C., 32 S. Clinton St., Chicago, Ill. "Shepherd"  
Bremco—see Bennington Radio & Electric Mfg. Co.  
Brendonne Corp., 42 Main St., Orange, N. J.  
Brightson Laboratories, Inc., 17 Oakridge Ave., Nutley, N. J. "True Blue"  
Bull Dog—see Radiotube Corp.  
Cable Supply Co., 907 Broadway, New York, N. Y. "Speed"  
Camden Glass Works, 105 Arch St., Camden, N. J.

C. E. Mfg. Co., 702 Eddy St., Providence, R. I. "CeCo"  
Cataloged on page.....149  
CeCo—see C. E. Mfg. Co.  
Chester Electric Co., 39 Tracy Ave., East Lynn, Mass.  
Cleartron Vacuum Tube Co., 28 W. 44th St., New York, N. Y. "Hi-Constron"  
Commercial Enclosed Fuse Co., 1317 Willow Ave., Hoboken, N. J. "Playtron"  
Connecticut Telephone & Electric Co., 70 Britannia St., Meriden, Conn. "Sodion"  
Conneway Electric Laboratories Co., 406 Jefferson St., Hoboken, N. J. "Magnatron Rex" "Magnatron"  
Continental Sales Co., 179 W. Washington St., Chicago, Ill. "Alladin"  
Cunningham, E. T., 182 Second St., San Francisco, Cal.  
Daven Radio Corp., 158 Summit St., Newark, N. J.  
DeForest Radio Co., Jersey City, N. J. "Audion"  
Cataloged on page.....150  
Dextron Radio Laboratory, 74 Sterling St., East Orange, N. J.  
Diamond Vacuum Products Co., 4053 Diversey Ave., Chicago, Ill. "Diatrons"  
Diatrons—see Diamond Vacuum Products Co.  
Diode—see Electrad, Inc.  
Donle-Bristol Corp., Cambridge & Tremont Sts., Meriden, Conn.  
Duraco—see Duratron Products Corp.  
Duratron Products Corp., 539 Lewis St., Union City, N. J. "Duraco" "Permatron"  
Eastern Radio Corp., 36 Devereaux St., Arlington, Mass. "E. R. C."  
Econotron—see Nulite Electric Co.  
Edlo Laboratories, Inc., Lynn, Mass.  
Electrad, Inc., 428 Broadway, New York, N. Y. "Diode"  
Electric Sales Co., Newark, N. J. "Arion"  
Electrical Research Laboratories, 2500 Cottage Grove Ave., Chicago, Ill. "Erla"  
Electron Tube Laboratories, 2217 Lafayette St., Fort Wayne, Ind.  
Elektron—see Lectrodio Corp.  
Elite Radio Tube Co., 409 S. Eighth St., Newark, N. J.  
Empire Electrical Products Co., 132 Greene St., New York, N. Y. "Empiretron"  
Empire-tron—see Empire Electrical Products Co.  
Erla—see Electrical Research Laboratories  
E. R. C.—see Eastern Radio Corp.  
Eschner Co., 122 S. Michigan Ave., Chicago, Ill.  
Farad Corp., 239 Centre St., New York, N. Y.  
Gem Tube Co., 200 Broadway, New York, N. Y.  
Globe Electric Co., Century Bldg., Pittsburgh, Pa.  
Gold Seal Products Co., 250 Park Ave., New York, N. Y.  
Goldentone—see United Radio & Electric Corp.  
Gormac Electric Co., 311 W. 59th St., New York, N. Y.  
Henderson Bros., 93 Federal St., Boston, Mass.  
Hi-Constron—see Cleartron Vacuum Tube Co.

Hytron Corp., 19 Oakland St., Salem, Mass.

Ideal Products Corp., 78 Mechanic St., Newark, N. J. "Puratron"

Imperial Radio Corp., 1945 Wabansia Ave., Chicago, Ill. "Vitavox"

Jaeger Research Laboratories, 270 Park Ave., Weehawken, N. J.

Jove Lamp Works, 103 Park Ave., New York, N. Y.

Kellogg Switchboard & Supply Co., 1066 W. Adams St., Chicago, Ill., "McCullough"

Kenotrons—see Radio Corp. of America

K. & H. Electric Co., 41 Commercial St., Newark, N. J. "Musiktron"

Ken-Rad Corp., Owensboro, Ky.

Kimmig Puratron Mfg. Co., 1707 N. 12th St., Philadelphia, Pa.

Konkle, James H., 192 Market St., Newark, N. J. "Loudspeaker"

Leco—see Lynn Electric Corp.

Lectroadio Corp., 186 Market St., Lynn, Mass. "Elektron"

Liberty Appliance Corp., 249 E. 43d St., New York, N. Y.

Livetone—see Royal Electric Co.

Loudspeaker—see Konkle, James H.

Lynn Electric Corp., 412 Broad St., Lynn, Mass. "Leco"

MacLaren Mfg. Co., 26 Park Pl., New York, N. Y.

Magnatron—see Conneway Electric Laboratories Co.

Magnatron Rex—see Conneway Electric Laboratories Co.

Magnavox Co., 2725 E. 14th St., Oakland, Cal.

Marathon—see Northern Mfg. Co.

Martin Radio & Electric Co., 130 N. 52d St., New York, N. Y. "Packard"

Mastertone Radio Corp., 120 Central Ave., Newark, N. J.

Mazda Radio Mfg. Co., 3405 Perkins Ave., Cleveland, Ohio. "Muzada"

McCullough—see Kellogg Switchboard & Supply Co.

Meco—see Metropolitan Electric Co.

Metropolitan Electric Co., Fine Arts Bldg., Des Moines, Iowa. "Meco"

Mizpah—see Nulite Electric Co.

Musiktron—see K. & H. Electric Co.

Musselman, A. J., 549 W. Washington Blvd., Chicago, Ill.

Muzada—see Mazda Radio Mfg. Co.

Myers Radio Tube Corp., 1890 E. 40th St., Cleveland, Ohio.

Northern Mfg. Co., 365 Ogden St., Newark, N. J. "Marathon"

Nulite Electric Co., 220 W. 42d St., New York, N. Y. "Econotron" "Mizpah"

Pacific Radio Laboratory, 256 S. Los Angeles St., Los Angeles, Cal. "Perfection"

Packard—see Martin Radio & Electric Co.

Peertron—see Artee Radio Sales & Mfg. Co.

Pennant Radio Laboratories, 57 Hoyt St., Newark, N. J. "Amplitron"

Perfection—see Pacific Radio Laboratory

Permatron—see Duratron Products Corp.

Perryman Electric Co., 33 W. 60th St., New York, N. Y.

Phenix Electric Laboratories, 334 Canal St., New York, N. Y.

Philadelphia Radio Mfg. Co., 3040 W. Stiles St., Philadelphia, Pa. "Philotron"

Philotron—see Philadelphia Radio Mfg.

Pingree Radio Service, Inc., 170 Summer St., Boston, Mass.

Playtron—see Commercial Enclosed Fuse Co.

Puratron—see Ideal Products Corp.

Qualitron Mfg. Co., 527 Morgan St., Union City, N. J.

Radio Corp. of America, 233 Broadway, New York, N. Y. "Radiotrons" "Kenotrons"

Cataloged on pages 126, 127, 128 and 129

Radio Requirements Co., Fifth & Market Sts., Philadelphia, Pa. "Thermionic"

Radio Telephone & Telegraph Corp., 130 W. 42d St., New York, N. Y.

Radiotive Corp., 5317 21st Ave., Brooklyn, N. Y. "Bull Dog"

Radiotrons—see Radio Corp. of America

Roberts Radio Co., Henry C., 112 Trinity Pl., New York, N. Y. "American"

Royal Electric Co., 186 Third St., Boston, Mass. "Livetone"

Royal Electrical Laboratories, 109 Tichenor St., Newark, N. J. "Royalfone"

Royalfone—see Royal Electrical Laboratories

Schickerling Products Corp., 401 Mulberry St., Newark, N. J.

Shepherd—see Braun Co.

Simplex—see Titania Mfg. Co.

Sky-Sweeper—see Ablett Co.

Sodium—see Connecticut Telephone & Electric Co.

Sonatron Tube Co., 220 S. State St., Chicago, Ill.

Speed—see Cable Supply Co.

Sturdy Engineering Co., 422 S. Clark St., Chicago, Ill.

Sunlight Lamp Co., Newton Falls, Ohio

Superton Mfg. Co., 222 Washington St., Hoboken, N. J.

Sylvan—see Baker-Smith Co.

Sylvania Products Co., Emporium, Pa.

Cataloged on page.....151

Tectron Radio Co., 1270 Broadway, New York, N. Y.

Tele vocal Corp., 67 Fifth Ave., New York, N. Y.

Thermionic—see Radio Requirements Co.

Thornell-Maclaren Associates, 26 Park Pl., New York, N. Y.

Titania Mfg. Co., 236 W. 55th St., New York, N. Y. "Simplex"

Travin Radio Mfg. Co., 72 Cortlandt St., New York, N. Y.

True Blue—see Brighton Laboratories, Inc.

Turney, H. F., 1000 N. Madison St., Rome, N. Y.

United Radio & Electric Corp., 418 Central Ave., Newark, N. J. "Ureco" "Goldentone"

Ureco—see United Radio & Electric Corp.

Van Horne Co., Franklin, Ohio

Cataloged on page.....152

Veby Radio Co., 47 Morris Ave., Newark, N. J.

Vesta Battery Corp., 2100 Indiana Ave., Chicago, Ill.

Vitavox—see Imperial Radio Corp.

White Beauty Electric Co., 4416 N. Western Ave., Chicago, Ill.

Yankee Tube Corp., 6 Church St., New York, N. Y.

Zetka Laboratories, 9 S. Fullerton Ave., Montclair, N. J.